

ABSTRACT

A first electrode and a second electrode are provided, and an electrolyte is disposed between the first electrode and the second electrode. The first electrode and the second electrode are made of  
5 corresponding different materials in chemical potential for hydrogen gas. The first electrode includes higher chemical potential material and the second electrode includes lower chemical potential material. The first electrode functions as a detecting electrode for hydrogen gas, and the second electrode functions as a standard electrode for the  
10 hydrogen gas. The hydrogen gas is detected on an electromotive force generated between the first electrode and the second electrode.